

PROJECT REQUEST
Ethyl CorporationApproved
7-10-78

Problem No. 2028	Project No. B-2028
Date 6/14/78	Approp. Request No. 5

1. Division - Department Manufacturing		2. Location Baton Rouge, La.		Project Accounting Location Baton Rouge Plant	
3. Title VCI Emissions Reduction - EPA				4. Primary Justification Pollution Abatement	
5. Project Description This Part 5 request for \$250,000 is to provide additional facilities required to meet Environmental Protection Agency National Emissions Standards for Hazardous Air Pollutants Standard for Vinyl Chloride at the Baton Rouge plant. These facilities are required to provide means to operate the PVC plant without an atmospheric vent for the vinyl chloride recovery system. The existing atmospheric vent cannot be used after 10/21/78. Appropriations to date for the 4 previous parts have totaled \$1,650,000. A Part 6 request will be submitted in August, 1978 to cover the remaining facilities needed to establish compliance with EPA regulations. This request includes funds to start engineering, purchase long delivery items, and begin construction when necessary to meet the compliance deadline of items which will be included in the Part 6 request. The primary justification for this project is pollution abatement.					
6. Estimated Expenditures		A. This Request	B. Appropriated to Date	C. Future Requests	D. Total Project
a. Fixed Investment		\$ 250,000	\$ 1,650,000	\$ Undefined*	\$ Undefined*
b. Working Capital					
c. Operations					
d. Other					
Total Project Expenditures		\$ 250,000	\$ 1,650,000	\$ Undefined*	\$ Undefined*
7. Write-off	Original Cost				
	Less	Depreciation			
		Salvage Value			
	Net Write-Off		\$ -	\$ -	\$ -
8. Included in Capital Budget?		What Year?	Ref. No.	9. Patents	
☐ No ☒ Yes		1978		Project will be examined for patentable features.	
If Substitution, give effect on return		Amount			
		\$355,000**			
10. Forecast Disbursements-Fixed Investment		11. Economic Summary-Based on Standard Calculation-If Alternate(s) Used, Attach Details		This Request	Total Project
This Year	250,000	Fixed Investment		\$ 250,000	\$ Undefined*
Subsequent years	-	Other Expenditures			
Total	250,000	Total		\$ 250,000	\$ Undefined*
12. Estimated Completion Date Mech. comp. 10/21/78 (all parts) Physical comp. Nov 78		After Tax Savings Or Income		\$	\$
13. Class of Estimate - This Request Speculative		Payout Period		Yrs.	Yrs.
14. Lease Commitments: Annual Amount Term		Working Capital Requirements		\$	\$
None		Total Capital		\$ 250,000	\$ Undefined*
		Return on Total Capital		%	%
		Discounted Rate of Return		%	%
15. Remarks and Ultimate Effect *Total project expenditure is undefined at this time. Based on known scope, the total project cost is expected to be \$2.2M. Compliance is required by October 21, 1978. ** \$800M budgeted, \$445M approved on Part 4, 5/8/78.					

Title	Prob. No.	Project No.
VCI Emissions Reduction - EPA	2028	B-2028 Request No. 5

18. Explanation and Economic Justification
This request for \$250,000 will provide funds for the following:

PVC-14 - Install revised controls for the vinyl chloride recovery system.
PVC-15 - Install a degasser stream oxygen analyzer system.
PVC-18 - Install a new head space analyzer in the PVC plant quality control lab.
Part 6 - Start engineering, purchasing, and initial construction of future items as required to meet EPA compliance.

ECONOMICS:
Justification is pollution abatement. This project is required to comply with EPA regulations.

ENVIRONMENTAL AND ENERGY IMPACT:
See attached sheet.

CAPITOL PRO RATES TO DIVISIONS:
Plastics Division: 100%

17. Tax Items: Qualifies for Pollution 5-yr. Write-Off ☐ Yes ☒ No
Qualifies for Tax Exemption Certif. ☐ Yes ☒ No If Special Depreciation Allowance is Available, Describe:

18. Requests Approved By

Division or Dept. Manager (Primary Sponsor)	Co-Sponsor	Other Approvals (Indicate Responsibility)
W. F. Armstrong	Sr. Vice President C. M. Neher	
Chief Engineer or Division Engineer (Estimate and Schedule Responsibility) V. O. Mitchell	Co-Sponsor Asst. Dir. Mfg. Tech. Serv. D. E. Park	
Manufacturing or Production Manager (Manufacturing Responsibility) W. C. Strader	Co-Sponsor	
Asst. Gen. Mgr. Manufacturing A. O. Wikman	Co-Sponsor	
Division Economics Coordinator (Approval of Economics) T. A. Leeper	Co-Sponsor	
Division Finance (Finance Review) E. H. Rachal	Co-Sponsor P. S. Richard	

Environmental and Energy Impact:

Project PVC-14 will eliminate an existing atmospheric vent line that vents vinyl chloride gas (recovered monomer) to the atmosphere when the incinerator is shut down or overloaded. Project PVC-15 is expected to avoid conditions (air leakage into recovered monomer) that lead to incinerator overloading. These combined projects are expected to allow the monomer recovery system to operate with no vents to the atmosphere, except for those which occur through safety relief valves. The quantitative amount of vinyl chloride that presently vents to the atmosphere through the existing vent line is not accurately known; however, a significant decrease in atmospheric emissions should result from the projects. The net electrical energy requirement for the facilities covered by this request is 8.5 M KWhr per year.

PROJECT ESTIMATEJob No. 20281 Title: VCI Emission Reduction - EPA Date of Estimate 5/31/78

	<u>This Part 5 Request</u>	Estimate No. <u>2231 K</u> Class of Estimate <u>Speculative</u> <u>Total Project</u>
Appropriations 1, 2, 3, 4		\$1,650,000
<u>New Investment</u>		
PVC-14 Monomer Controls	\$78,000	
PVC-15 Oxygen Analyzer	42,000	
PVC-18 Head Space Analyzer	30,000	
Engineering, purchasing, and initial construction of future items	<u>95,000</u>	
Sub-total	\$ 245,000	
Scope Definition Contingency	<u>5,000</u>	
Sub-total	\$250,000	<u>250,000</u>
Investment Total*		\$1,900,000

* Investment Total:

Based on (i) Start of Engineering in progress
(ii) Start of Construction 7/15/78
(iii) Mechanical Completion by 10/21/78

Included in Engineering Department Quarterly Forecast dated 3/16/78.

Not included in last Engineering Department Quarterly Forecast but estimated net effect is:

Approved 186/22Ch. Simmons
Director - Cost Engineering & AdministrationDate 6/22/78ET-154
8/5/77

EC 2783

FOR EXECUTIVE COMMITTEE ACTION AT MEETING OF JULY 11, 1978

ETHYL CORPORATION

INTER-OFFICE

June 22, 1978

To: Mr. R. Herzog

From: Wallace F. Armstrong

Subject: VCM Emission Reduction,
EPA Project B-2028-5

cc: Executive Committee
Mr. L. E. Blanchard, Jr.
Mr. B. C. Gottwald
Mr. F. D. Gottwald
Mr. F. D. Gottwald, Jr.
Mr. R. Herzog
Mr. K. F. Cast
Dr. W. E. Foster
Mr. A. W. Helwig
Mr. J. U. Jensen
Mr. J. H. Kirby
Mr. C. W. Montgomery
Mr. R. A. Moser
Dr. C. M. Neher
Mr. D. E. Park
Mr. W. C. Strader
Mr. A. O. Wikman

AUTHORIZATION REQUESTED

Approval is requested for the attached Part 5 request of project B-2028, "VCM Emission Reduction-EPA". This request is for \$250,000 and increases the total appropriations for B-2028 to \$1,900,000. A Part 6 request, also on the order of \$250,000 will be submitted in August and will complete the program as it is now understood. The program must be completed in accordance with regulations by October 21, 1978.

BACKGROUND AND DISCUSSION

On April 4, 1978, EPA denied Ethyl's waiver request involving use of a flare as a control device to eliminate VCM emissions. EPA stated in their letter that unless a plan was submitted to achieve compliance by October 21, 1978, Ethyl would be subject to appropriate legal remedies.

At the May 9 Executive Committee meeting, we received approval to submit an alternate plan to EPA. The main parts of the alternate plan are:

- Make process equipment and operating procedure changes in the PVC Area to improve the service factor of the existing incinerator and eliminate atmospheric venting of the incinerator feed gas.
- Eliminate flare burning of two process vents in the Hydrocarbon Area by incineration of these vents in an existing VCM furnace. The stack gas would be monitored to comply with the regulation. The inability to monitor flare emissions was the main point cited in EPA's denial of use of the flare.

- Revision of the VCM tank car loading procedure to eliminate venting of tank cars to the flare.

At the May 9 meeting we also pointed out five other equivalency requests were pending with EPA.

The alternate plan was submitted to EPA on May 19, 1978. Concerning the equivalency requests, EPA has approved one pending equivalency request and has denied the others. As a result of these denials, some additional expenditures will be required to achieve compliance. Finally, EPA is taking a very hard line on enforcement of the regulations with regard to emergency venting of VCM. Some further expenditures to reduce the frequency of emergency vents are required.

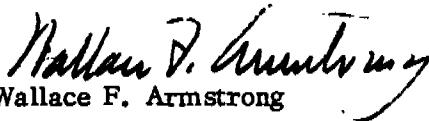
As stated earlier, the final date to complete facilities to comply with the regulations is October 21, 1978. The items needed to achieve compliance that have not been funded are listed below:

HC-9	Collection system, burner and analyzers to permit burning of vent gases in cracking furnaces and monitoring of stack emission
PVC-14	Revise controls for monomer recovery system
PVC-15	Oxygen analyzer
PVC-16	Barometric condenser revision
PVC-17	Incinerator spare parts
PVC-18	Head space analyzer
PVC-19	Autoclave purge controls
PVC-20	Broken batch stripping facilities
PVC-21	Vacuum system revisions
PVC-22	Emergency vent prevention

This request provides funds for PVC-14, PVC-15, and PVC-18 which have been estimated to cost \$155,000. It also provides \$95,000 to be used to continue engineering, order long delivery equipment, and start construction of the other parts of the project. The Part 6 request will be made after engineering estimates have been made to determine the costs of the remaining items.

The forecast for total project expenditure is now \$2.2MM. This compares favorably with the forecast first made in January, 1977 which gave a range of project costs from \$2.5 to \$4.0MM.

In our Part 4 request, we indicated that an incinerator-scrubber costing in excess of \$1MM might have to be installed to comply with emission regulations and we planned to submit a request for funds for the incinerator on this project. We have postponed definitive design of the incinerator as we believe the present programs provide facilities needed to comply with existing regulations. However, an incinerator-scrubber will likely be required if new regulations limiting HCl discharges are promulgated.


Wallace F. Armstrong

WFA:jm